UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/755,512	01/05/2001	Raymond Kloth	112025-0074C1	6783

24267	7590	12/08/2006

CESARI AND MCKENNA, LLP
88 BLACK FALCON AVENUE
BOSTON, MA 02210

EXAMINER
NGUYEN, TOAN D

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/755,512	KLOTH, RAYMOND
	Examiner	Art Unit	
	Toan D. Nguyen	2616	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>26 September 2006</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,6-11,13-16,18-20 and 24-31* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,6-11,13-16,18-20 and 24-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>11 April 2006</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-2, 7, 9-11, 13-16, 18-20, 24, 26, 28, and 30 are rejected under 35

U.S.C. 102(e) as being anticipated by Crayford (US 6,269,098).

For claim 1, Crayford discloses method and apparatus for scaling number of

virtual LANs in a switch using an indexing scheme, comprising:

receiving a frame (received frame) at a port (figure 2, references 60 and 62, col.

5 lines 25-32) of said switch (figure 1, reference 12, col. 3 lines 43), said received frame

containing one or more indicia of frame type (col. 7 lines 6-10, and col. 8 lines 16-17),

said one or more indicia of frame type including an indicia of a protocol type (figure 7A

and figure 7B, col. 8 lines 23-27);

accessing a virtual local area network (VLAN) value associated with the port

(Abstract lines 4-8, and figure 8, col. 8 lines 37-48);

deriving a virtual local area network (derived VLAN) value in response to said

one or more indicia of frame type (col. 6 lines 39-42, and col. 8 lines 16-62) and said

VLAN value (Abstract lines 4-8, and figure 8, col. 8 lines 37-48), said derived VLAN

value for use internal to said switch (col. 3 lines 32-33 and col. 6 lines 40-42);

accessing a forwarding data base (figure 5, reference 106, col. 7 lines 23-35)

with said derived VLAN value to determine a destination address (col. 8 lines 32-62);

and

forwarding, in response to said derived VLAN value, said received frame to an

output port for transmission to the destination address (col. 8 lines 32-62 and col. 9 lines

30-33).

For claim 2, Crayford discloses said forwarding step forwarding in response to

said derived VLAN value and said destination address (col. 8 lines 55-61).

For claim 7, Crayford discloses wherein said indicia of frame type designation

further comprises an index value associated with a port at which said received frame

was received (col. 7 line 62).

For claim 9, Crayford discloses method and apparatus for scaling number of

virtual LANs in a switch using an indexing scheme, comprising:

a port (figure 2, references 60 and 62, col. 5 lines 25-32) to receive a frame

(received frame), said port associated with a virtual local area network (VLAN) value

(Abstract lines 4-8, and figure 8, col. 8 lines 37-48), said received frame containing one

or more indicia of frame type (col. 7 lines 6-10, and col. 8 lines 16-17), said one or more

indicia of frame type including an indicia of a protocol type (figure 7A and figure 7B, col.

8 lines 23-27);

a parsing engine (figure 4, reference IRC 68, col. 7 lines 10-13) to derive a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type (col. 6 lines 39-42, and col. 8 lines 16-62) and said VLAN value (Abstract lines 4-8, and figure 8, col. 8 lines 37-48), said derived VLAN for use internal to said switch (col. 3 lines 32-33, and col. 6 lines 40-42);

a forwarding data base (figure 5, reference 106, col. 7 lines 23-35) configured to use said derived VLAN value as an input and to yield a destination address as an output (col. 8 lines 32-62); and

an output port to transmit said received frame, in response to said derived VLAN value, to said destination address (col. 8 lines 32-62 and col. 9 lines 30-33).

For claim 10, Crayford discloses a forwarding engine (figure 4, reference 68, col. 8 lines 8-9) for forwarding said received frame in response to said derived VLAN value and said destination address (col. 8 lines 55-61).

For claim 11, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

receiving a frame (received frame) at a port (figure 2, references 60 and 62, col. 5 lines 25-32) of said switch (figure 1, reference 12, col. 3 lines 43), said received frame containing one or more indicia of frame type (col. 7 lines 6-10 and col. 8 lines 16-17) said one or more indicia of frame type including an indicia of a protocol type (figure 7A and figure 7B, col. 8 lines 23-27);

accessing a virtual local area network (VLAN) value associated with the port (Abstract lines 4-8, and figure 8, col. 8 lines 37-48);

deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type (col. 6 lines 39-42, and col. 8 lines 16-62) and said VLAN value (Abstract lines 4-8, and figure 8, col. 8 lines 37-48), said derived VLAN value for use internal to said switch (col. 3 lines 32-33, and col. 6 lines 40-42);

accessing a forwarding data base (figure 5, reference 106, col. 7 lines 23-35) with said derived VLAN value to determine a destination address (col. 8 lines 32-62); and

forwarding, in response to said derived VLAN value, said received frame to an output port for transmission to the destination address (col. 8 lines 32-62 and col. 9 lines 30-33).

For claim 13, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

using one or more indicia of frame type found in a received frame (col. 7 lines 6-10) a to derive a virtual local area network (derived VLAN) value, said derived VLAN value used internal to said switch, said derived VLAN value different from a VLAN value associated the frame external to the switch (Abstract lines 4-8, and figure 8, col. 8 lines 16-62); and

using the derived VLAN value in making forwarding decisions (col. 8 lines 32-62 and col. 9 lines 30-33).

For claim 14, Crayford discloses controlling broadcast domains in the computer network by forwarding in response to the derived VLAN value (col. 6 lines 61-67 and col. 8 lines 32-62).

For claim 15, Crayford discloses using an indicia of a receiving port in constructing the derived VLAN value (col. 7 lines 6-10).

For claim 16, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

using one or more indicia of frame type found in a received frame (col. 7 lines 6-10) a to derive a virtual local area network (derived VLAN) value, said derived VLAN used internal to said switch, said derived VLAN value different from a VLAN value associated the frame external to the switch (Abstract lines 4-8, and figure 8, col. 8 lines 16-62);

using the derived VLAN value in making forwarding decisions (col. 8 lines 32-62 and col. 9 lines 30-33).

For claim 18, Crayford discloses method and apparatus for scaling number of virtual LANs in a switch using an indexing scheme, comprising:

receiving a frame (received frame) at a port (figure 2, references 60 and 62, col. 5 lines 25-32) of said switch (figure 1, reference 12, col. 3 lines 43), said received frame containing one or more indicia of frame type (col. 7 lines 6-10, and col. 8 lines 16-17), said one or more indicia of frame type including an indicia of a protocol type (figure 7A and figure 7B, col. 8 lines 23-27);

accessing a port index value associated with the port (Abstract lines 4-8, and figure 8, col. 8 lines 37-48);

deriving a virtual local area network (derived VLAN) value in response to said

one or more indicia of frame type (col. 6 lines 39-42, and col. 8 lines 16-62) and

said port index value (Abstract lines 4-8, and figure 8, col. 8 lines 16-62);

accessing a forwarding data base (figure 5, reference 106, col. 7 lines 23-35)

with said derived VLAN value to determine a destination address (col. 8 lines 32-62);

and

forwarding, in response to said derived VLAN value, said received frame to an

output port for transmission to the destination address (col. 8 lines 32-62 and col. 9 lines

30-33).

For claim 19, Crayford discloses method and apparatus for scaling number of

virtual LANs in a switch using an indexing scheme, comprising:

a port (figure 2, references 60 and 62, col. 5 lines 25-32) to receive a frame

(received frame), said port associated with a index value (Abstract lines 4-8, and figure

8, col. 8 lines 37-48), said received frame containing one or more indicia of frame type

(col. 7 lines 6-10, and col. 8 lines 16-17), said one or more indicia of frame type

including an indicia of a protocol type (figure 7A and figure 7B, col. 8 lines 23-27);

a parsing engine (figure 4, reference IRC 68, col. 7 lines 10-13) to derive a virtual

local area network (derived VLAN) value in response to said one or more indicia of

frame type and said index value (col. 6 lines 39-42, and col. 8 lines 16-62);

a forwarding data base configured (figure 5, reference 106, col. 7 lines 23-35) to

use said derived VLAN value as input and to yield a destination address as output (col.

8 lines 32-62); and

an output port to transmit said received frame, in response to said derived VLAN

value, to said destination address (col. 8 lines 32-62 and col. 9 lines 30-33).

For claim 20, Crayford discloses method and apparatus for scaling number of

virtual LANs in a switch using an indexing scheme, comprising:

means for receiving a frame (received frame), said received frame containing

one or more indicia of frame type (col. 7 lines 6-10, and col. 8 lines 16-17), said one or

more indicia of frame type including an indicia of a protocol type (figure 7A and figure

7B, col. 8 lines 23-27);

means for accessing an index value associated with the means for receiving a

frame (Abstract lines 4-8, and figure 8, col. 8 lines 16-48);

means for deriving a virtual local area network (derived VLAN) value in response

to said one or more indicia of frame type (col. 6 lines 39-42, and col. 8 lines 16-62) and

said index value (Abstract lines 4-8, and figure 8, col. 8 lines 16-48);

means for accessing a forwarding data base (figure 5, reference 106, col. 7 lines

23-35) with said derived VLAN value to determine a destination address (col. 8 lines 32-

62); and

means for forwarding, in response to said derived VLAN value, said received

frame to an output port for transmission to the destination (col. 8 lines 32-62 and col. 9

lines 30-33).

For claim 24, Crayford discloses wherein the step of deriving further comprises:

generating a protocol code from the indicia of protocol type (col. 8 lines 23-27);

combining the protocol code with the VLAN value to produce a mapping address

(col. 8 lines 37-62);

accessing a memory structure with the mapping address to obtain the derived

VLAN value (col. 8 lines 37-62).

For claim 26, Crayford discloses further comprising:

a protocol mapping table to map the indicia of protocol type to a protocol code

(col. 8 lines 37-62);

wherein the parsing engine is configured to combine the protocol code with the

VLAN value to produce a mapping address and to access a memory structure with the

mapping address to obtain the derived VLAN (col. 8 lines 37-62).

For claim 28, Crayford discloses wherein the step of deriving further comprises:

generating a protocol code from the indicia of protocol type (col. 8 lines 23-27);

combining the protocol code with the index value to produce a mapping address;

(col. 8 lines 37-62);

accessing a memory structure with the mapping address to obtain the derived

VLAN (col. 8 lines 37-62).

For claim 30, Crayford discloses further comprising:

a protocol mapping table to map the indicia of protocol type to a protocol code

(col. 8 lines 37-62);

wherein the parsing engine is configured to combine the protocol code with the

index value to produce a mapping address and to access a memory structure

with the mapping address to obtain the derived VLAN (col. 8 lines 37-62).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 4, 6, 8, 25, 27, 29 and 31 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Crayford (US 6,269,098) in view of Shani (US 6,023,563).

For claims 4, 6, 8, 25, 27, 29 and 31, Crayond does not expressly disclose

wherein said indicia of frame type further comprises a subnet value. In an analogous

art, Shani discloses wherein said indicia of frame type designation comprises a subnet

value (Table 2a, col. 9 line 51).

Shani discloses wherein said indicia of frame type designation comprises an IP

source address (Table 1, col. 9 line 34 as set forth in claim 6); deriving a MAC address

from said derived VLAN value and forwarding said received frame to a port for

transmission to a destination having said MAC address (Table 1, col. 10 lines 10-12 as

set forth in claim 8); wherein the indicia of protocol type indicates an Internet Protocol

(IP) protocol type (col. 4 line 62 as set forth in claims 25, 27, 29, and 31).

One skilled in the art would have recognized the wherein said indicia of frame

type further comprises a subnet value, and would have applied Shani's database

structure in Crayford's frame. Therefore, it would have been obvious to one of ordinary

skill in the art at the time of the invention, to use Shani's networking switch having the

network presence of a bridge in Crayford's method and apparatus for scaling number of

virtual LANs in a switch using an indexing scheme with the motivation being to provide

the Port-Assignment (PA) database uses the port number as a unique key entry and

correlates multiple VLAN and network/subnet numbers (col. 9 lines 49-51).

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Toan D. Nguyen whose telephone number is 571-272-

3153. The examiner can normally be reached on M-F (7:00AM-4:30PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Mr. Huy Vu can be reached on 571-272-3155. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TN
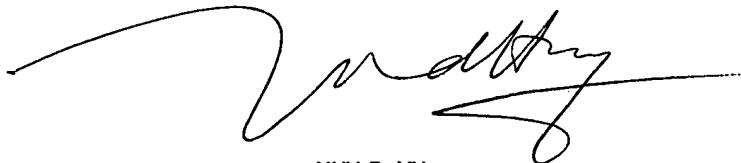
HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600